HYDRO-ELECTRIC INQUIRY COMMISSION

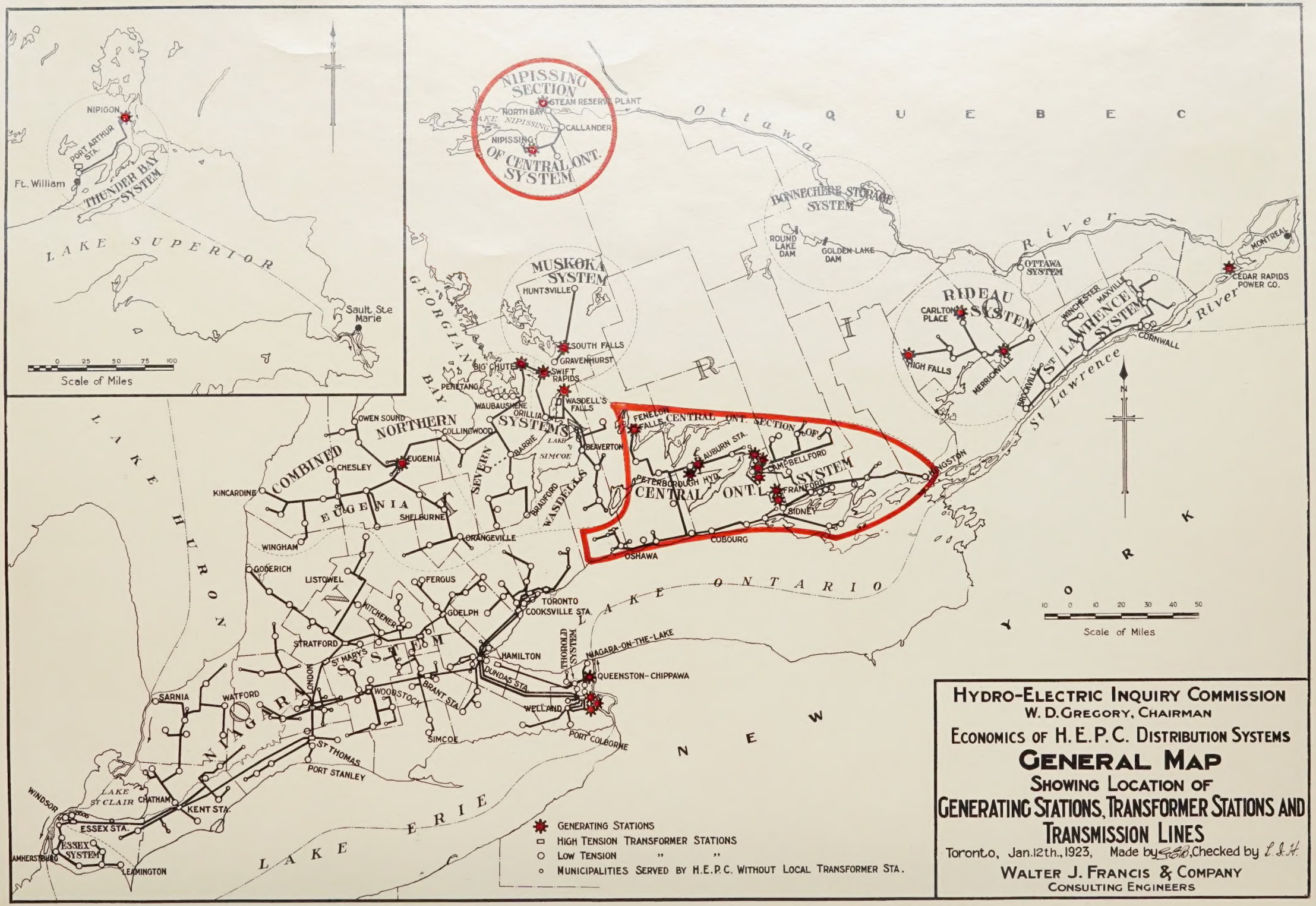
REPORT

ON

CENTRAL ONTARIO SYSTEM

W. D. GREGORY, CHAIRMAN
M. J. HANEY
LLOYD HARRIS
J. ALLAN ROSS
R. A. ROSS
COMMISSIONERS

JOSEPH H. W. BOWER
SECRETARY


HYDRO-ELECTRIC INQUIRY COMMISSION
W. D. GREGORY, CHAIRMAN
ECONOMICS OF H. E. P. C. DISTRIBUTION SYSTEMS
GENERAL MAP
SHOWING LOCATION OF
GENERATING STATIONS, TRANSFORMER STATIONS AND TRANSMISSION LINES
Toronto, Jan. 12th., 1923, Made by E.S.B., Checked by L.S.H.
WALTER J. FRANCIS & COMPANY
CONSULTING ENGINEERS
GENERATING STATIONS
HIGH TENSION TRANSFORMER STATIONS
LOW TENSION " "
MUNICIPALITIES SERVED BY H.E.P.C. WITHOUT LOCAL TRANSFORMER STA.
Scale of Miles
NIPISSING SECTION OF CENTRAL ONT. SYSTEM
STEAM RESERVE PLANT
NORTH BAY
CALLANDER
NIPISSING
LAKE NIPISSING
THUNDER BAY SYSTEM
NIPIGON
PORT ARTHUR STA.
Ft. William
LAKE SUPERIOR
Sault Ste Marie
MUSKOKA SYSTEM
HUNTSVILLE
SOUTH FALLS
GRAVENHURST
BIG CHUTE
SWIFT RAPIDS
PERETANG
WASDELL'S FALLS
WAUBAUSHENE
ORILLIA
BARRIE
LAKE SIMCOE
BEAVERTON
GEORGIAN BAY
NORTHERN SYSTEM
OWEN SOUND
COLLINGWOOD
COMBINED EUGENIA SYSTEM
CHESLEY
EUGENIA
KINCARDINE
SHELBURNE
WINGHAM
SEVERN
BRADFORD
WASDELLS
ORANGEVILLE
GODERICH
LISTOWEL
FERGUS
KITCHENER
GUELPH
STRATFORD
ST MARYS
LONDON
NIAGARA SYSTEM
SARNIA
WATFORD
WOODSTOCK
BRANT STA.
SIMCOE
ST THOMAS
PORT STANLEY
LAKE ST CLAIR
CHATHAM
KENT STA.
WINDSOR
ESSEX STA.
ESSEX SYSTEM
AMHERSTBURG
LEAMINGTON
LAKE HURON
LAKE ERIE
TORONTO
COOKSVILLE STA.
HAMILTON
DUNDAS STA.
THOROLD SYSTEM
WELLAND
PORT COLBORNE
NIAGARA-ON-THE-LAKE
QUEENSTON-CHIPPAWA
LAKE ONTARIO
CENTRAL ONT. SECTION OF CENTRAL ONT. SYSTEM
FENELON FALLS
AUBURN STA.
PETERBOROUGH HYD.
McBELLFORD
FRANKFORD
SIDNEY
COBOURG
OSHAWA
KINGSTON
BONNECHERE STORAGE SYSTEM
ROUND LAKE DAM
GOLDEN LAKE DAM
OTTAWA SYSTEM
RIDEAU SYSTEM
CARLTON PLACE
HIGH FALLS
MERRICKVILLE
BROCKVILLE
ST LAWRENCE SYSTEM
WINCHESTER
MAXVILLE
CORNWALL
CEDAR RAPIDS POWER CO.
MONTREAL
Ottawa River
St Lawrence River
QUEBEC
NEW YORK

6

General Map Showing Location of

Generating Stations, Transformer Stations and Transmission Lines

- of the -

Hydro-Electric Power Commission of Ontario.

The area outlined in red shows The Central Ontario (Trent) Section of the

Central Ontario System

HYDRO-ELECTRIC INQUIRY COMMISSION
W. D. GREGORY, CHAIRMAN
ECONOMICS OF H.E.P.C. DISTRIBUTION SYSTEM

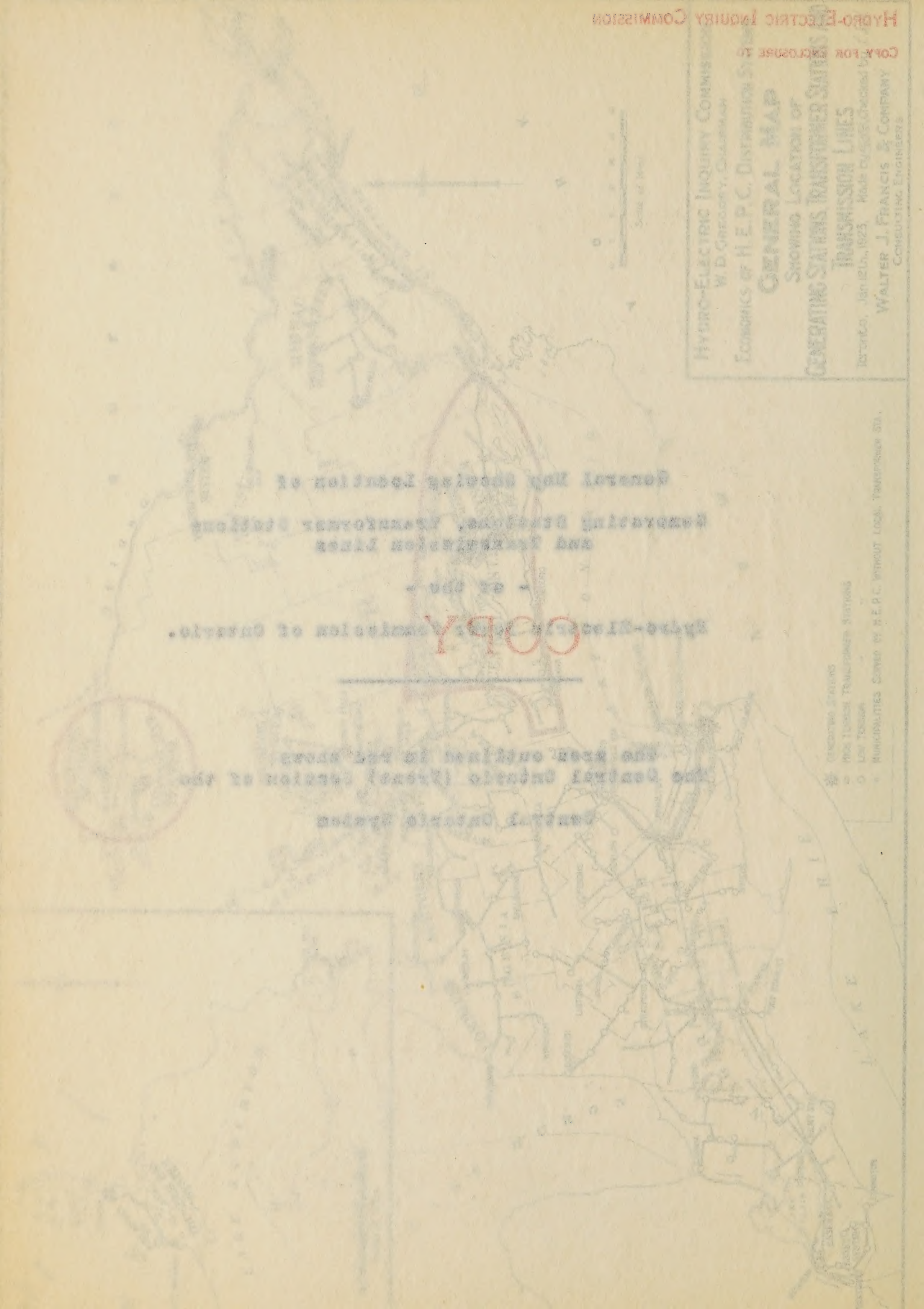
GENERAL MAP
SHOWING LOCATION OF
GENERATING STATIONS, TRANSFORMER STATIONS
AND
TRANSMISSION LINES

ISSUED, JAN. 12TH, 1923. MADE DUPLICATE CHECKED BY

WALTER J. FRANCIS & COMPANY
CONSULTING ENGINEERS

General Map showing location of
Generating Stations, Transformer Stations
and Transmission Lines
- of the -
Hydro-Electric Commission of Ontario.

The area outlined in red shows
the Southern Ontario (Trans) Section of the
Central Ontario System



To His Honor Henry Cockshutt,

Lieutenant-Governor of the Province of Ontario.

May It Please Your Honor:-

Having been appointed by Order-in-Council to inquire into, consider, and report upon all matters of expenditure and administration by the Hydro-Electric Power Commission of Ontario, we have inquired into and considered, among other things, the administration and expenditure by the said Commission in respect of what is known as the Central Ontario System, and respectfully submit this Report thereon. With this Report we hand to you the reports on this System made to us by our Consulting Engineer, Mr. Walter J. Francis, and our Accountants, Messrs. Price, Waterhouse & Co., respectively.

What is known as the Central Ontario System is divided into two sections. One of these sections, which is known as the Trent Section, extends along Lake Ontario from the City of Kingston on the east to the Town of Whitby on the west. The most northerly point of this Section is Fenelon Falls where a generating plant is in operation. The other section is known as the Nipissing Section. It includes the Town of North Bay and several villages. A map of the System appears opposite this page.

In 1915 a number of generating plants, transformer stations, transmission lines and local distributing plants

were in operation in the Central Ontario district. They had been constructed by various private interests of which the leading one was the Seymour Power Company. In 1915 nearly all these plants were owned or controlled by the Electric Power Company, Limited. Most of the generating plants were located on the Trent River and derived their power therefrom. The Electric Power Company or its subsidiaries also owned a number of gas and water works, a pulp mill, a flour mill and a street railway in the City of Peterborough. The Company was not in a flourishing condition. Interest on bonds amounting to more than a hundred thousand dollars appears to have been in default at this time.

The Hydro Electric Power Commission of Ontario, which we shall hereafter refer to as "the Commission", had for some years been endeavouring to secure a foothold in the Central Ontario district and in this attempt had the co-operation and support of the leading municipalities, many of which had passed resolutions which were forwarded to the Commission in which they asked for estimates or requested that surveys of the situation as regards the supply of power be made. Other municipalities made inquiry as to the intentions of the Commission. All showed an interest in the development by the Commission in their respective areas.

While the action of these municipalities furnished the occasion for the intervention of the Commission to this part of the Province, it would seem that the action of the

municipalities coincided with plans, which the Commission already had fully in mind, for securing a foothold in Central Ontario and in making a breach in the chain of privately owned power developments on the Trent and Otonabee rivers that barred its progress eastward. In 1913 it had entered into a contract with the City of Peterborough to furnish it power at cost and had purchased the power required from a subsidiary of the Electric Power Company. It had gone so far as to have a valuation made of all the property of the Electric Power Company. It had made several offers to purchase and had received from the company several counter offers to sell. But notwithstanding offers and counter offers no agreement had resulted from the negotiations.

The Trent river is a navigable stream over which the Dominion of Canada claims jurisdiction. The Province of Ontario, while admitting the right of the Dominion to control navigation on the river, claimed to be entitled to the water not required for the purposes of navigation. An action to establish the rights asserted by the Province was begun years ago, but has never been brought to trial and the Dominion still continues in sole control.

It was at the dams built by the Dominion that the generating plants of the Electric Power Company on the Trent were located. The Company paid to the Dominion Government a rental for the use of the water, which was fixed in some cases at a lump sum per year and in others at so much per horsepower. There were on the Trent certain sites where no

generating plants were located and these sites the Commission endeavoured to secure for the purpose of power development. Some of these sites were owned by the Electric Power Company and the Commission could have secured them or any other sites through expropriation proceedings. Had the Commission secured the sites and the water it could at once have established itself in the Trent district and would have become an active competitor of the Electric Power Company. But while the Commission might have expropriated sites it could not compel the Dominion Government to sell it water, and sites without water would have been valueless. Time and again it applied for leases of the water, but the Minister of Railways and Canals under whose jurisdiction the matter came, stated that it was inadvisable to have two competing bodies generating power on the river and the applications were refused, or at any rate not granted. But the Commission did not give up, and the waters of the Trent which not long before had known only the canoe of the Indian or the explorer continued to be the scene of a duel between great public and private interest. On the one hand was the Commission seeking new fields for its activities; on the other hand was the Electric Power Company, backed by the Sun Life Insurance Company, the holder of its bonds, and by the powerful influence of the Dominion Government. At length the contest resulted in deadlock.

Meanwhile the municipalities had been actively backing up the Commission in its fight for sites and water, and the

Hon. Frank Cochrane, Minister of Railways and Canals became anxious for a settlement. He suggested that the Commission purchase the assets of the Electric Power Company, and Sir Henry Drayton, then Chairman of the Board of Railway Commissioners for Canada, was sent to Toronto for the purpose of hearing evidence as to the value of the property of the company and determining what price should be paid for it. The Commission, however, refused to be bound by any award that Sir Henry Drayton might make and the arbitration proceedings came to an end almost before they had begun.

The Ontario Government, represented by Hon. Howard Ferguson, Minister of Lands, Forests and Mines, and Hon. Mr. McGarry, Provincial Treasurer, was now taking part in the negotiations, for the Ontario Government as well as Mr. Cochrane desired the settlement of a troublesome controversy. Messrs. Ferguson and McGarry had appeared at the hearing before Sir Henry Drayton and participated in the proceedings. After the collapse of these proceedings the relations between Sir Adam Beck, Chairman of the Commission, and Mr. Strachan Johnston, President of the Electric Power Company, appear to have been far from cordial -- in fact they might be described as severely strained. Mr. Johnston says that Sir Adam Beck had agreed to accept Sir Henry Drayton's award and that upon his refusal to do so, he (Johnston), acting on behalf of the Electric Power Company, refused to sell to the Commission or to carry on any further negotiations with it. There had already been talk

of the sale being made direct to the Ontario Government, and henceforth the negotiations with the Electric Power Company were conducted directly by the two Ministers mentioned.

There were other reasons why the sale should be made directly to the Government. The company's assets were, as we have pointed out, of the most varied character and the Power Commission Act contained no provision for the purchase by the Commission of such undertakings as pulp and flour mills, gas and water works or street railways. It is doubtless true that the Commission might have expropriated the electric development portions of the property, but it appears clear that the Minister of Railways insisted upon the Commission taking the whole of the company's property if it took any, so the Commission had to take it all if it was to get any water from the Trent River.

Sir William Hearst, at that time Prime Minister, says:

> " It was not solely a power plant ..... those people (the company) would not sell parts without the whole."

Hon. Mr. Ferguson says that:

> " It would be a pretty drastic step to say the Hydro could step in and take out the power interests and leave the rest of the junk on the company as a loss."

On Saturday, March 4th, 1916, the Honorable Doctor Reid, the Acting Minister of Railways, arrived at Toronto. A meeting was held on the morning of that day at which were

present Hon. Dr. Reid, Hon. Howard Ferguson, Hon. Lynch-Staunton, Counsel for the Ontario Government, and Mr. Strachan Johnston, President of the Electric Power Company. Terms of sale of the assets of the Electric Power Company to the Provincial Government were discussed. To what extent the parties agrees is not certain from the evidence given before us, but it would appear that the representatives of the Government offered to deliver to the company 50-year bonds of the Province of Ontario for $8,350,000. in payment for all of its properties and that it was understood that the company would accept the offer. This price was subject to the approval of Sir Adam Beck as Chairman of the Commission and representative of the municipalities. In the afternoon there was another meeting. At this meeting the same parties appear to have been present, except that Mr. Strachan Johnston was absent, and Sir Adam Beck was present. For a part of the time at least, Mr. Gaby, Chief Engineer of the Commission, was there. The terms of sale of the assets of the Electric Power Company to the Province before mentioned were discussed and agreed to by Sir Adam Beck. Mr. Lynch-Staunton prepared a memorandum in longhand setting them forth. This memorandum was taken away by Mr. Gaby, typewritten, brought back and signed by Sir Adam Beck. It was in the form of a letter and read as follows:-

COPY FOR ENCLOSURE TO

"HYDRO ELECTRIC POWER COMMISSION OF ONTARIO"
Office of the Chairman

Continental Life Building
Toronto, March 4th, 1916.

"Honorable G. Howard Ferguson,
Minister of Lands, Forests & Mines,
Parliament Buildings, TORONTO.

Dear Sir:-

Referring to the Electric Power Company's interest in the Trent District, I would recommend that the Government offer the Electric Power Company, including all interests controlled by it for all their physical assets (excluding the accounts receivable and payable) franchises, rights, interests, contracts, works, etc. as they existed on March 1st, 1916, and as added to since that date, the sum of $8,350,000. in 4% Government Bonds interest payable half yearly. Bonds redeemable in fifty years, such Bonds shall provide for the deferring of the Sinking Fund for the first ten year."

Yours truly,

COPY

A. Beck,

Chairman. "

An agreement between the Electric Power Company and the Government of Ontario was subsequently prepared, and on March 10th, it was signed by Hon. Mr. Ferguson on behalf of the Province and by the officers of the Electric Power Company. It may be found in chapter 18 of the Ontario Statutes for 1916. Under this agreement the Province of Ontario became the owner of all the property of the Electric Power Company.

There was, however, an important difference between the terms set forth in the letter from Sir Adam Beck and the agreement as executed by the Government. It will be noted that Sir Adam Beck in his letter to Mr. Ferguson refers to the Electric Power Company's interests "in the Trent District"

COPY

The company contended that this did not include their property at Nipissing. There seems to be no doubt that it was understood at the meeting at which the letter was signed that the Nipissing property was included. It was the property of the Electric Power Company. It had been valued by the Commission, it had been included in the offers and counter offers already referred to. Along with the other properties of the Company it was covered by the outstanding bonds of the Company. However, the Company took the position that the Nipissing plant was not included in "the Trent District" and that if it were to go to the Government the Company must have a quid pro quo. While the agreement as drawn and executed included all the property of the company, the term for which the bonds were to run had been changed from fifty years to ten years. Fifty-year 4% Province of Ontario bonds for $8,350,000. were worth at that time $6,825,597.28. The same amount in ten year bonds was worth $7,705,206.22 so that the company made $879,608.94 by the change. It is interesting to note that the highest value that had been placed on the Nipissing plant by the engineers of the Commission was $383,665.00, so that after deducting the value of this plant from the increase in the value of the bonds the company came out $495,943.94 to the good. That the change in the term for which the bonds were to run was made owing to the difference arising in respect of the Nipissing property is clearly stated by Mr. Strachan Johnston and Hon. Mr. Ferguson.

Mr. Johnston says:-

" ...Mr. Ferguson told us that he would have to get the Nipissing property as well; then we negotiated the matter anew and he reduced the term of the bonds from 50-year bonds to 10-year bonds.

Q-"Who did that?

A-"Mr. Ferguson and we agreed to put in the Nipissing property. We put in the Nipissing property to get the reduction in the termsof the bonds from 50 years to 10 years."

Hon. Mr. Ferguson says:-

"Well, I haven't any doubt from what Mr.Johnston has said; he recalls many things to me. I remember we got into a dispute about whether Nipissing was included or not, and they declined to accept the bonds on this long-term basis, and I think that, after further negotiations, he agreed to put in Nipissing if we reduced the bonds to 4 per cent....

Q -"And make the term ten years?

A -"And make the term ten years.

Q -"So that it was the inclusion of the Nipissing that really determined the lowering of the term?

A -"That and the fact that the company said 'No, we won't take that.'"

The Commission protested against the change, but after the agreement had been executed. Sir Adam Beck says that he did not approve or disapprove but that he would have recommended the purchase on the terms of the agreement rather than not have the property.

Honorable Mr. McCarry, who was Provincial Secretary at the time the property was bought, states that he desired the term of the bonds changed from fifty to ten years because he was satisfied that the Government would be able to borrow money at

less than four per cent. in ten years' time.

He says:

> "My views were that in ten years, when the war would be over, we would get back to cheap money again ...I told Mr. Ferguson that on the merits of it I thought it would be better for us to make the bonds for ten years at 4% ..I say it was far better in the interests of the Province to make the term ten years, because we could borrow at a cheaper rate than 4%. That was my opinion and my firm conviction."

In our opinion Mr. McGarry's estimate was decidely over-sanguine. While no one knows what the rate of interest on bonds of this character will be in three, ten or twenty years hence, it is reasonably certain that a number of years will elapse before the Province will be able to borrow at a four per cent. rate. If the Government has to refund in 1926 when the present bonds mature, it will, in our judgment, have to pay a higher rate than four per cent.

We have stated that the Commission had a valuation of the property of the company made. This valuation was made by the engineers of the Commission in 1914. They made an estimate of the thhn present value and also of the replacement value ... that is, the cost of replacing the plant. The valuation was as follows:-

	Replacement Value	Present Value
Central Ontario Section .	$5,046,088.00	$3,987,319.00
Nipissing Section	383,668.00	298,596.00
Stores and Spare Parts. .	160,891.00	120,666.00
Tools	7,767.00	3,884.00
	$5,598,411.00	$4,410,465.00

The replacement value of the property fixed by the engineers of the Commission was thus $2,106,795, less than the cash value of the bonds given by the Government for it and $2,751,589. less than the amount of the bonds themselves; while the present value of the property as fixed by the engineers was $3,294,741 less than the cash value of the bonds and $3,939,535 less than their face value or in other words $3,939,535 less than the amount that will have to be paid by the Government to redeem the bonds in 1926.

When the property was taken over in March, 1916, the replacement value was reduced by the engineers of the Commission to $5,291,099.00. To this, however, was added certain capital expenditures which had been made in the meantime by the Electric Power Company and which amounted to $185,049.91, and also an additional amount representing the value of tools, equipment, material and spare parts, so that the total replacement value was finally placed at $5,672,658.

The difference between this $5,672,658.00 and the amount of the bond issue was thus $2,677,342.00. This item was entered on the books of the Commission as "intangibles" and was apportioned among the various properties on a more or less arbitrary basis. Mr. Gaby, chief engineer of the Commission, says that the difference between the replacement value and the amount of the bonds was termed "intangibles" in order that the books of the Commission might be made to balance and that the entry of "intangibles" was merely a matter of book-keeping.

The following table shows the final apportionment as it appears on the books of the Commission:

	Replacement Value	Intangibles	Total
Central Ontario Section . .	$5,065,992.91	$2,578,671.00	$7,644,663.91
Nipissing Section .	408,156.00	98,671.00	506,827.00
Material and spare Parts . . .	184,998.53	-	184,998.53
Tools	13,510.56	-	13,510.56
	$5,672,658.00	$2,677,342.00	$8,350,000.00

It seems unlikely that the members of the Government having charge of the negotiations were familiar with the details of the valuation, but there is no doubt that they knew that a valuation had been made by the Commission's engineers and they were doubtless aware of the value placed by the engineers upon the property. It is unlikely that they knew of the terms of the franchises held by the Company or of the burdensome obligations to which reference is made hereafter. The following extracts are taken from the evidence given respectively before us by Sir William Hearst, who was Prime Minister in 1916, and the Honorable Howard Ferguson who conducted the negotiations:

SIR WILLIAM HEARST -

Q -"Did the Government have a valuation of the plant made before the purchase?"

A - "I cannot tell you that other than they would have the benefit, I have no doubt, of the information and report that the Hydro had."

Q - "You relied upon the report made by the Hydro?"

A - "That is my recollection."

HONORABLE HOWARD FERGUSON-

Q - "Did the Government on its own account make any investigation as to the value of the assets of this company that they were purchasing?"

A - "The Hydro were experts.

Q - "You relied entirely upon them?

A - "Oh, yes."

It would appear from the evidence given by Sir Adam Beck and others that the price paid was rather a matter of bargaining than of valuations and inventories. A potent and directing influence throughout on behalf of the vendors was the Sun Life Insurance Company which held all or nearly all the outstanding bonds of the Electric Power Company, which amounted to approximately $9,000,000.

In April, 1916, the month after the agreement to purchase was executed, the Legislature passed an Act which confirmed the agreement and provided that the Government might vest the administration and management of all the undertakings and properties purchased in a Commission. On May 5th, 1916, an Order-in-Council was passed placing the administration and management of the developments and other properties purchased under the control of the Hydro-Electric Power Commission of Ontario. The administration and management had continued in the hands of the Commission down to the present time.

It is clear that when the Government bought the properties in the name and with the money of the Province it did so without any intention of keeping them permanently. By

purchasing the properties the Government did for the Commission and the municipalities what they could not do themselves. Having done this it was the intention of the Government to turn the properties over to the Commission to operate for the municipalities. All this was to be done without any loss to the Province.

Sir William Hearst and Hon.Mr. Ferguson say:-

SIR WILLIAM HEARST -

Q -"You expected if you turned it over it would be turned over so that you would not lose anything, is that so?

A -"Yes, that was the idea. I think it was anticipated that it could be worked out in such a way that it would be for the benefit of the parties interested, developing power in that part of the Province, and without any loss to the Province."

HONORABLE HOWARD FERGUSON -

Q -"Was it anticipated that if the Government did buy it, it could ultimately dispose of it at a price which would save them from loss?

A -"The idea was to hand it over to the municipalities at just what it cost ...I remember one of the considerations was then, it was thought in ten years this whole thing could be reorganized and put on a Hydro basis."

If one person buys property for another he sees before he makes the purchase, if he is a prudent man, that funds are provided or security given by the party for whom he is acting so that he will run no risk of loss. This is a precaution that it would seem would be taken by anyone, but strange to say the Government overlooked or neglected to take such a

simple precaution in this case. It made the Province liable for the payment of $8,350,000 and for any further expenditures that might be necessary while the property remained in its hands. The municipalities, however, were not bound. They might take the properties or not -- just as they pleased. They might take some of the properties and leave the others. They might take the productive properties and leave the unproductive. In other words the Province took all the risks while the municipalities took none.

Before the Government bought for the municipalities it should have made sure that the municipalities would accept what it bought for them at the price that it paid. It is always easier for one who makes a loan or indorses a note to obtain security before the act than after it. If the Government had taken the position that before purchasing the property or pledging the public credit the municipalities should agree to take over the properties at the price paid by the Government, there seems no doubt that adequate guarantees would have been forthcoming. If when requested to furnish such guarantees the municipalities had declined to do so, the Government should have declined to make the purchase. A clear-cut plant for making over the properties to the municipalities or to the Commission to operate for them should have been agreed upon. It would have been much easier for the Province to have come to anagreement with the municipalities then than to come to an agreement today after seven years of operation carried on with varying results under the many different systems, contracts and plans described later in our report.

In the case of operation by the Commission under the Power Commission Act, the Government issues no bonds to meet the cost until the municipalities interested agree to pay annually to the Commission a sum sufficient to meet the entire cost to which the Government is put and provide a sinking fund as well. But there was no corresponding obligation on the part of the municipalities of Central Ontario. To us the course taken by the Government appears to have been unbusinesslike and imprudent and sure to lead to trouble in the future.

It may be that notwithstanding the fact that there is no agreement binding them to take the properties off the hands of the Government at cost, the municipalities of Central Ontario are willing to do so. We hope that this is the case, but at the hearings held by us and at which the municipalities were represented such an intention was not expressed. Mr. T.H.Stinson of Lindsay, speaking for the Midland Municipal Association, presented to us a resolution passed by the Association at a meeting held at Port Hope on October 3rd, 1922, at which seventeen municipalities were represented. In this resolution the Association requested that legislation be passed for the transfer of the powers and utilities of Central Ontario to the Hydro-Electric Power Commission for the municipalities so that the property might be operated for the municipalities as in Western Ontario. The subject of price was approached with caution. The municipalities desired the property, so the resolution said:

" ...at a price and on terms that will enable the powers and utilities to be operated on a sound and satisfactory financial and commercial basis and the local utilities be taken over by the several municipalities at a price that will enable them to operate these utilities at fair charges for service and without danger of financial loss. "

Speaking himself, upon the request of the Association that the property be made over to the municipalities, and in regard to the price which they should pay for it, Mr. Stinson said, in part,:

"We would not be prepared to take it (the property purchased by the Government) over just at what it cost. That committee was appointed for the purpose of making some investigations and ascertaining what would be a proper basis to arrive at ....The basis Mr. Ireland (Manager for the Commission in Central Ontario district) would recommend, as to purchase, would be on about a 40-year basis, 4 per cent. bonds if we could negotiate a deal along that line. He didn't say the price at which the Hydro would recommend to take it over, but he did say this, that the price ought to be less than what it was actually purchased at .... Undoubtedly we want to take it over at the lowest possible price.

Q -"Who would bear the difference between the price the Government paid for it and the price you would expect to get it at?

A -"The Government. The answer I would make to that ... would be that it would have to be borne by the Government ...We are a unit on the question of purchase if we can negotiate the right kind of bargain."

Mr. Stinson said that the municipalities would be satisfied with 40-year bonds at 4 per cent.

Q -"And the Government would have to borrow the money to pay off the ... bonds and in all likelihood would have to pay considerably more than 4 per cent. for its money, and yet you would expect them to lend it to you at less than they would have to pay?

A -" Yes."

Mr. R. H. Hicks, Chairman of the Local Utilities Commission of Peterborough, speaking in reference to the purchase of the System from the Government, in whole or in part, was very frank. He said:

"If it is a good thing we want it, but if it isn't why let the Government keep it.

Q-"What about your street railway?

A-"That is one of the things we don't think is very good.

Q-"But you would be willing to take it over at the cost to the Government?

A-"Oh, No....we would just as soon leave it where it is. The Government has purchased it ...let them go on and operate it.

Q -"Who will pay the deficits?

A -"The Government will pay the deficits ....

Q -"Are you prepared to take over that (the gas plant) at what it cost the Government?

A -"We haven't found out what it is worth yet, whether it cost too much."

Mr. F.L.Mason, of Oshawa, speaking of the property, said:

"I don't think there is any secret about it that the Government actually paid about $2,000,000. more than the actual valuation of the properties.

Q -"The Government paid $2,000,000.more than the actual valuation?

A -"Approximately.

Q -"But they paid it for you?

A -"Well, they did, yes, in a way they did, and in another way, I think it was probably in the general interests of the public that the property was purchased.

Q -"Didn't you ask them to buy it?

A -"Yes, I will admit we did ....."

We quote this evidence as showing the general attitude of the municipalities. Any trouble of this kind would have been avoided if the Government had taken reasonable and necessary precautions to assure the Province against

loss. The statement of Mr. Ireland, Local Manager of the Commission in Central Ontario, to which Mr. Stinson referred, is surprising and should not have been made. We are informed that no authority to make such a statement was given by the Government.

But little time was given to the consideration of the matter in the Legislature. The Bill ratifying the agreement for the purchase was introduced on the last day of the session of 1916; received its first, second and third readings and was passed on that day.

Since the purchase of the property the Province has made further advances. On October 31st, 1922, its total payments in bonds and cash amounted to $12,057,858.78, made up as follows:

Bonds of the Province issued as the purchase price of the System on 1st March, 1916	$8,350,000.00
5% debentures issued by the Province in 1917, due July 1st, 1927, in part purchase of Bruton Township pulpwood areas	225,000.00
Cash advances of the Province in the period 1st March, 1916, to 31st October, 1922	3,482,858.78
	$12,057,858.78

We have stated in general terms what the Government secured from the company in return for the $8,350,000.00 in bonds which it handed to it. The statement following

Generating Stations

Transformer Stations Owned By Ontario Government

Municipalities served by H.E.P.C. without local Trans'r. Sta.

Note:-

Transmission Line Voltage shown thus 44,000

Hydro-Electric Inquiry Commission

W. D. Gregory, Chairman

Economics of H.E.P.C. Distribution Systems

Central Ontario System

Central Ontario Section

Map Showing Location of Generating Stations, Transformer Stations and Transmission Lines

Toronto, Jan 5th., 1923. Made by ~~G.B.~~, Checked by L.J.N.

Walter J. Francis & Company

Consulting Engineers

shown in more detail the various classes of property purchased and the amount of the tangible and intangible values allotted to each. The "tangible" values in each case is the replacement value fixed by the engineers of the Commission. This statement is taken from the Commission's books.

	Tangibles	Intangibles	Total
Central Ontario Section			
Developed Powers	$1,822,890	$ 972,000	$2,775,590
Undeveloped Sites and Stand-by Plants	323,731	963,212	1,286,943
Transformer Stations	632,406	141,426	773,832
Transmission Lines	804,080	175,962	980,042
Local Electric Utilities	637,992	160,670	798,662
Gas, Water and Street R'ly	753,670	164,937	918,607
Pulp Mill	91,223	19,964	111,187
Nipissing Section			
Power Development and Steam Plants	229,011	62,151	291,162
Transformer Stations	25,072	5,842	30,914
Transmission Lines	35,136	8,186	43,322
Local Electric Utilities	118,937	22,492	141,429
Both Sections			
Material and Supplies	184,999	-	184,999
Tools and Equipment	13,511	-	13,511
	$5,572,658	$2,677,342	$8,350,00

Extensions and Additions

The Commission has extended the Healey Falls plant and erected a generating plant at Ranney Falls. It has also made a number of extensions of the transmission system. A map showing the generating stations, transformer stations and transmission lines as they exist today is shown opposite this page. The following table shows the generating stations as they existed at the time of the purchase in 1916 and as they exist today, together with the horsepower developed at

[illegible] Commission [illegible] Commission [illegible] [illegible] [illegible]

the respective stations then and now. It will be noted that the increase of 14,000 h.p. is made up of an additional development of 4,000 h.p. at Healey Falls and the new development of 10,000 h.p. at Bonney Falls.

Table of Generating Stations

Location	Name	H.E.P.C. Developed Rating 1916	H.E.P.C. Developed Rating 1922
Dam No. 2	Trenton (Sidney)	4,000 h.p.	4,000 h.p.
No. 5	Frankford	3,470	3,470
No.10	Bonney Falls	-	10,000
No. 11	Campbellford(Seymour)	4,000	4,000
No.14	Healey Falls	8,000	12,000
No.18	Peterborough (Auburn)	2,000	2,000
No.30	Fenelon Falls	930	930
		22,400	36,400

Power Purchased

In addition to the power generated, contracts have been made on behalf of the Province with the Peterborough Hydraulic Power Company and the municipality of the Town of Campbellford for a supply of power from their respective plants.

Undeveloped Powers

In addition to the developed power sites the Trent Section contains a number of undeveloped power sites at various points. Most complete and interesting details of these sites are given on pages 9 and 10 of the report of Mr. Walter J. Francis, our Consulting Engineer, already referred to.

Transmission Lines

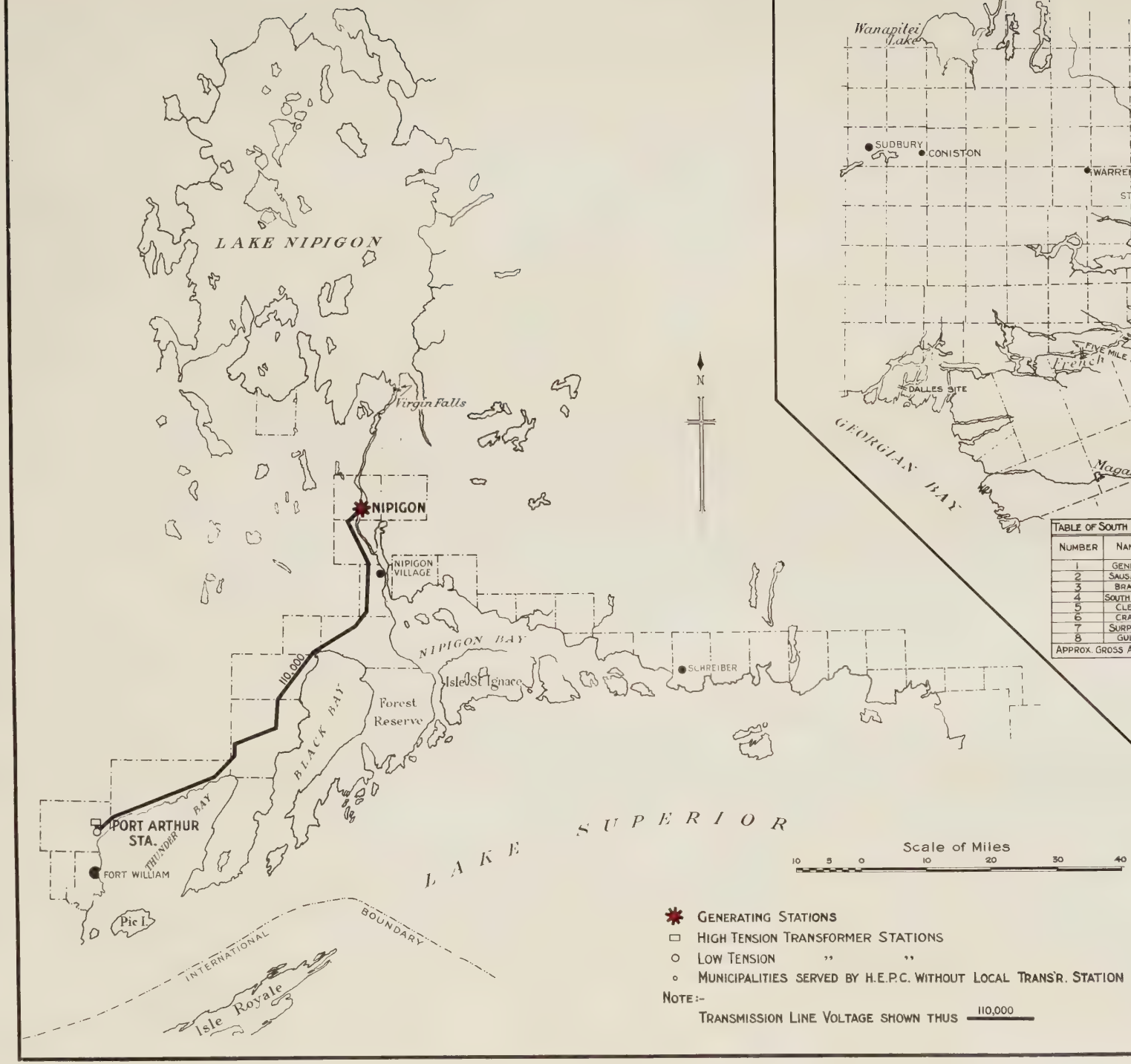
The transmission lines which were included in the purchase consisted for the most part of a 44,000 volt network, with a tie line from Fenelon Falls to Lindsay operating

at 11,000 volts, and a tie line from Trenton to Frankford operating at 6,600 volts. Since 1916 the transmission system has been greatly extended, having grown from 285 miles in 1916 to nearly 500 miles now.

Transformer Stations

A table of the transformer stations in the Trent Section, giving capacity and voltage of each, follows:-

Location	Capacity K.V.A.	Voltage H.T.	Voltage L.T.	Remarks
Belleville	2,250	44,000	2,400	
Belleville, Lehigh Cement	3,000	44,000	600	
" Belleville Cement Co.	2,250	44,000	600	
Bowmanville	1,500	44,000	2,400	
Brighton	300	44,000	2,400	Feeds Smithfield
Campbellford-Northern Pulp Mill	2,250	44,000	2,400	
Cobourg	600	44,000	2,400	
Colborne	100	44,000	2,400	
Deloro	750	44,000	600	
Deseronto	600	44,000	2,400	
Kingston	2,250	44,000	2,400	
Lakefield	225	6,000	4,160	From Auburn G.S.
Lindsay	1,500	44,000	2,400	
Lindsay	750	11,000	2,400	
Madoc	900	44,000	4,160	
Marmora	50	44,000	2,400	
Millbrook	100	44,000	2,400	
Napanee	600	44,000	2,400	Newburg & Camden
Newcastle	100	44,000	2,400	Feeds Orono
Norwood	300	44,000	4,160	
Omemee	120	44,000	2,400	
Oshawa	5,250	44,000	4,160	Feeds Whitby, Oshawa Rural, etc.
Peterborough	5,000	6,000	2,400	
Picton	300	44,000	2,400	
Point Anne	600	44,000	600	
Port Hope	480	44,000	2,400	
Sulphide	1,050	44,000	4,160	
Sulphide, Nichols Chemical	225	2,200	220	
Trenton	750	6,600	4,160	
Trenton	600	6,600	2,400	
Wellington	300	44,000	4,160	Feeds Bloomfield



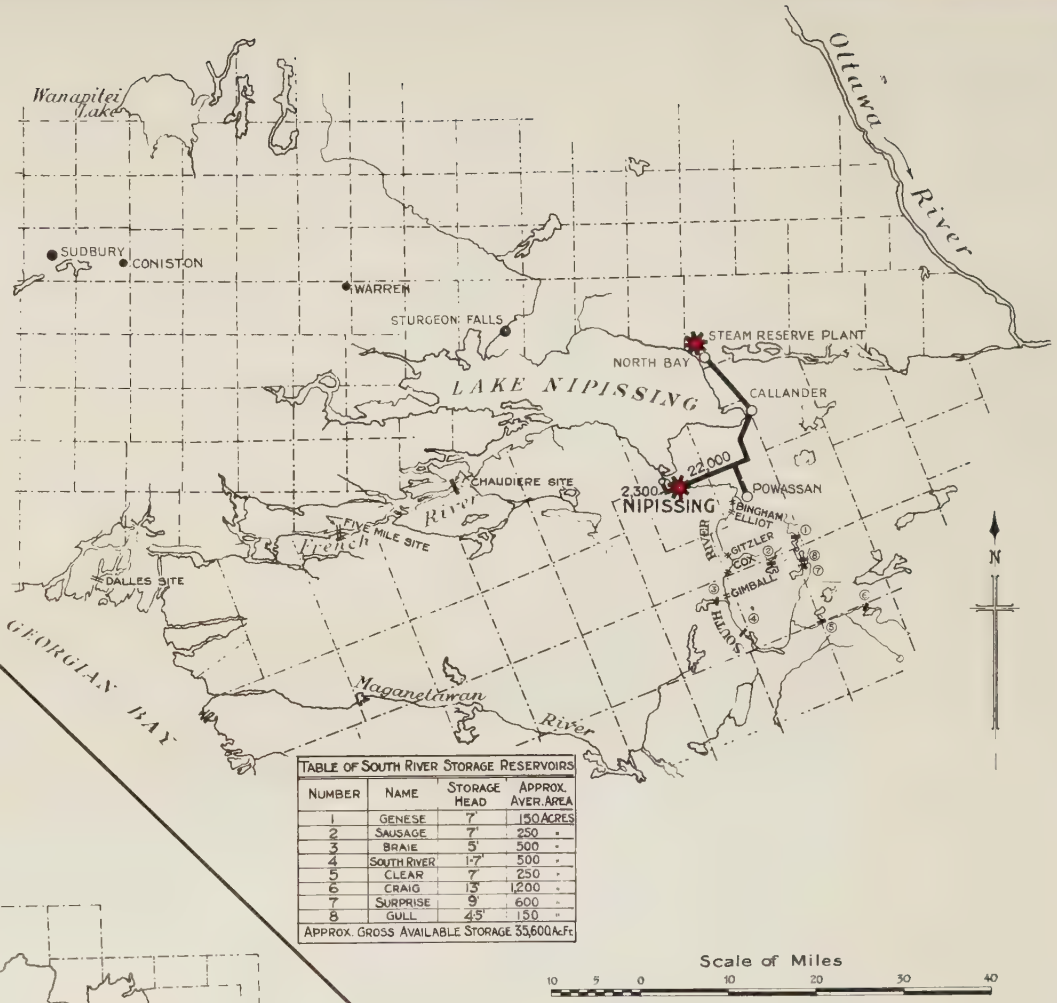


Table of South River Storage Reservoirs			
Number	Name	Storage Head	Approx. Aver. Area
1	Genese	7'	150 Acres
2	Sausage	7'	250 "
3	Braie	5'	500 "
4	South River	1-7'	500 "
5	Clear	7'	250 "
6	Craig	13'	1,200 "
7	Surprise	9'	600 "
8	Gull	4.5'	150 "
Approx. Gross Available Storage 33,600 Ac.Ft.			

Hydro-Electric Inquiry Commission

W. D. Gregory, Chairman

Economics of H. E. P. C. Distribution Systems

Nipissing Section of Central Ontario System, and Thunder Bay System

Map Showing Location of Generating Stations, Transformer Stations and Transmission Lines

Toronto, Jan. 12th, 1923. Made by SRW. Checked by L.J.H.

Walter J. Francis & Compan
Consulting Engineers

(25)

Flour Mill

A flour mill at Frankford was among the assets of the company purchased by the Government. We are informed that it was at no time operated by the Commission and has been dismantled.

Nipissing Section

A statement of the price paid for the Nipissing Section of the Central Ontario System has already been given. The Section includes undertakings for the generation, transmission and distribution of electrical energy to consumers in the town of North Bay and the villages of Callander, Powassan and Nipissing. A map showing them is inserted opposite this page. The electrical energy is retailed to the consumers through the local electric distributing systems at fixed rates governed as to their maximum, in the case of North Bay, by a franchise granted by the municipality to a subsidiary of the Electric Power Company prior to March 1, 1916. The rates charged for power in Powassan, Callander and Nipissing are by agreement between the Commission and the consumers. The properties of this Section consist of a hydraulic generating station on the South River at Nipissing of a capacity of approximately 1900 h.p., and a steam plant generating station with a capacity of approximately 625 h.p. The steam plant was for some time shut down but during the recent acute power shortage was rehabilitated and is now operating. There is in this Section approximately 35 miles of 22,000 volt lines and three transformer stations located at North Bay, Powassan and Callander. There is also an abandoned power house at Powassan. The local electric

Item XIII

A filmy will at Frankford was among the assets of the company purchased by the Government. We are informed that it was at no time operated by the Commission and has been dismantled.

Statement Regarding

A statement of the price paid for the Niagara Section of the Central Ontario System has already been given. The Section includes waterrights for the generation, transmission and distribution of electrical energy to consumers in the town of North Bay and the villages of Callander, Powassan and Nipissing. A map showing the Section is inserted opposite this page. The electrical energy is distributed to the consumers through the local municipal distributing systems or fixed rates governed as to their maximum, in the case of North Bay, by a franchise granted by the municipality to a subsidiary of the Electric Power Company prior to March 1, 1910. The rates charged for power in Powassan, Callander and Nipissing are by agreement between the Commission and the consumers. The properties of this Section consist of a hydraulic generating station on the Sturgeon River at Eighteen Mile Rapids (see Item [illegible]), and a steam electric generating station with a capacity of approximately 600 h.p. The steam plant was for some time since [illegible] "[illegible]" and is now operating. There is in this station approximately 38 miles of 33,000 volt line and three transformer stations located at North Bay, Powassan and Callander. There is also an abandoned power house at Powassan. The local electric

distributing systems in North Bay, Callander, Powassan and Nipissing comprise transformers, distributing lines and metering equipment. Certain water rights in connection with the Nipissing Section are held at Cox Chute and Bingham Chute. An appropriation for the construction of a power plant at Bingham Chute was made at the last session of the Legislature, and plans have been made. Under the original contract between the subsidiary of the Electric Power Company and North Bay it was agreed that power to the extent of 3,500 h.p. should be provided, but the capacity of the plant at the present time falls far short of this quantity. The recent shortage appears to have been caused largely by the great increase in the number of electric stoves in use in North Bay. The existing franchise with the municipality of North Bay limits the rates chargeable for power. North Bay consumes approximately 90% of the total load of this Section.

When the Nipissing plant is remodelled and the Bingham Chute development is completed sufficient power should be available amply to provide for North Bay, and the other points now being served, for some years to come. If the demand continues at the present rate a further development will have to be provided in about five years' time.

OPERATIONS.

Having now outlined the negotiations that led up to the purchase and the agreement arrived at, and described in general terms the properties that were purchased by the Government and turned over to the Commission to be administered by it, we shall deal with the results of the operations that have

since been carried on.

Capital Costs per Horsepower
for Central Ontario Plants

The following table shows in brief form the relative capital costs per horsepower for each of the development plants in the Central Ontario Section:

	Head Feet	Year Built	Horse Power Rating (HEPC)	Capital Cost per H.P. (HEPC) (rating)	Capital Cost per H.P. based on turbine capacity	Remarks
Trenton	18.6	1911	4,000	$ 89.00	$ 64.00	Low head
Frankford	17	1913	3,400	95.00	77.00	Low head
Ranney Falls	54	1920-22	10,000	170.00	154.00	Elaborate design and high unit prices. Medium head.
Campbellford	22.5	1910	4,000	97.00	71.00	Low head
Healey Falls	74	1913-14 extended 1919	12,000	127.00	90.00	Turbine rating disproportionate to rated output Medium head
Auburn	17.5	1911-12	2,000	208.00	146.00	Cost of dam included; small capacity; low head; expensive local conditions.
Fenelon Falls	22.5	1899	930	244.00	227.00	Small capacity and expensive local conditions. Low head.

The capital cost per horsepower would be much higher but for the fact that a large portion of the development has been made by the Dominion Government in the form of dams, none of which were constructed by the Commission. For the use of the water made available for power through the construction of these dams the Commission pays the Dominion Government an annual rental. In some instances the rental is a lump sum per annum; in others the rental is so much per horsepower.

Total Cost of Power

The total cost of power furnished by the Commission for the System is made up approximately as follows:

(1) Operating costs, including power purchased	25%
(2) Maintenance	10%
(3) Overhead and general expenses	12%
(4) Interest	35%
(5) Renewal Reserve	15%
(6) Contingencies	3%
	100%

With increased development have come increased revenues. The revenues which were $637,660.00 in 1917 had grown to approximately $1,108,608.00 in the year that ended October 31, 1922.

Below we give a table showing the population of the various municipalities served, the number of consumers and the power sold, as of October 31, 1921. It will be noted that the percentage of consumers to population runs from 15.5 in the case of Deseronto to 30.5 in the case of Brighton.

Municipality	Population	Consumers	Percentage Consumers to Population	H.P. Billed 1921	Kilowatt Hours 1921	Kilowatt Hours per Consumer
Bloomfield	550	97	17.6	33.4	51,027	526
Havelock	1,266	302	23.8	16.4	120,440	400
Kingston	22,368	4,047	18.1	1,847.8	8,184,600	2,020
Lakefield	1,146	232	20.2	110.8	190,081	820
Marmora	853	154	18.0	11.4	50,770	330
Norwood	711	204	28.7	9.0	61,000	299
Omemee	537	120	21.5	48.0	103,980	866
Peterboro	21,790	5,521	25.3	4,613.7	14,060,250	2,550
Picton	3,189	885	27.7	269.6	869,521	980
Wellington	850	173	20.3	69.3	141,564	818
Whitby	3,975	1,000#	-	397.6	1,399,224	1,400
Belleville	12,243	2,078	23.5	1,727.6	5,773,960	2,004
Bowmanville	3,250	813	25.0	1,113.9	3,391,160	4,170
Brighton	1,375	419	30.5	111.2	300,160	718
Cobourg	5,108	1,075	21.0	724.7	2,201,760	2,045
Deseronto	1,928	300	15.5	313.2	659,230	2,194
Lindsay	7,840	1,880	23.5	1,375.6	4,148,500	2,250
Millbrook	733	177	24.1	84.9	96,000	542
Napanee	2,847	711	25.0	417.1	1,058,350	1,490
Newcastle	619	163	26.3	35.0	80,240	490
Newburg	434	105#	-	340.3	138,542	1,310
Orono	700	153	21.9	35.0	80,240	525
Port Hope	4,567	1,094	22.9	531.9	1,444,680	1,321
Oshawa	12,246	2,819	23.0	3,415.7	9,048,098	3,210
Tweed	1,268	333	26.3	94.7	219,840	670
Trenton	5,576	1,420	25.5	690.5	2,041,880	1,440
	117,989	27,055	22.9	18,238.3	55,915,097	2,067

(#) - approximate

Losses on Operation

The losses on operations up to October 31st, 1922, amounted to $207,167.98. The results by years were as follows:-

	Surplus	Deficit
20 months ending Oct. 31, 1917		$ 77,549.66
Year ending 31st October, 1918		12,951.83
Year ending 31st October, 1919		190,722.38
Year ending 31st October, 1920	$154,967.75	
Year ending 31st October, 1921		42,674.03
Year ending 31st October, 1922 (approx)		38,237.83
	$154,967.75	$362,135.73
		154,967.75
Total deficit		$207,167.98

The losses and profits of the System are as follows:

LOSSES

Power Department	$374,947.44	
Gas Works	108,430.62	
Cobourg Water Works	27,010.14	
Peterborough Radial Rly	130,450.52	
Nipissing Section	30,350.34	
Loss on sale of Trenton Water Works	2,270.64	
Total Losses		$673,459.70

PROFITS

Local Electric Systems	$421,085.39	
Trenton Water Works	3,816.57	
Campbellford Pulp Mill	41,389.76	
Total Profits		$466,291.72
Net Loss to October 31st, 1922 . . .		$207,167.98

In addition to the deficit there has been a loss represented by the difference between the amount realized for property sold or scrapped and the book value thereof. This loss has been added to the "intangibles." During the period from March 1st, 1916, to October 31st, 1921, "intangibles" were in this way increased to the extent of $171,395.15 The losses of this class are from:

Power Developments	$132,255.39
Low Tension Lines	7,277.67
Sub-stations	14,751.09
Local Electric Systems	6,238.56
Nipissing Section	9,184.70
Pulp Mill.	1,677.74
TOTAL.....	171,395.15

System not Under Provisions of Power Commission Act.

It is important to note that the Government under the provisions of the Act of 1916 had the right to place the Central Ontario System under the management and control of any Commission. The fact that it was placed under the Hydro-Electric Power Commission did not bring it to any extent under the provisions of the Power Commission Act. It still remained a distinct property owned by the Province and no more subject to the Power Commission Act than if it had been still owned by a private company. The Commission was under no obligation to sell power at cost except to the extent that it might bind itself to do so after it took the management over. It was at liberty to charge just as high rates as were permitted by the agreements with the respective municipalities, which had been made by the Electric Power Company or its subsidiary companies when they owned the properties. It could make a profit out of one municipality and a loss in another. At the time of the purchase and now power was and is being sold under widely varying conditions and almost every class of contract. None of the municipalities

acquired any interest in the properties except to the extent hereinafter mentioned.

Groups to which Power Sold.

Speaking broadly power is now sold by the Commission to three different groups:-

(a) Private companies which take power at fixed rates, and certain municipalities, including Kingston, which take power at fixed rates on a wholesale basis.

(b) Nine municipalities which buy power at "cost" on a wholesale basis.
Power taken by the Townships of Whitby, East Whitby and Pickering at cost over the Oshawa Rural Line.

(c) Fifteen municipalities in which power is sold retail by the Commission over local distributing plants owned by the Government.

An analysis of the sales made to each of these groups indicates that group (a) takes from 25% to 30% of the total electric energy sold. Group (b), which takes power at cost, takes practically the same quantity. Group (c) which includes the municipalities to which power is sold at retail prices by the Commission takes from 40% to 50% of the total electric energy developed.

The revenue from the power sold to groups (a), (b) and (c), together with the profit and loss, is shown by the following statement for the year ended October 31st, 1921;

	Revenue	Profit	Loss
Power sold under (a)	$252,230.05	-	$62,775.62
Power sold under (b)	139,232.01	-	-
Power sold under (c)	582,650.39	$84,516.21	-
	974,112.45	84,516.21	62,775.62

Thus it will be seen that the revenue derived from group (a), which takes from 25% to 30% of power sold, amounted to approximately 26% of the entire revenue. The revenue produced from group (b) which takes from 25% to 30% of power sold, was only 14% of the total revenue while group (c), which takes less than 50% of the power sold, paid 60% of the revenue received.

The results of the operations in the fifteen municipalities in which power is distributed and sold retail by the Commission have not yet been determined for the fiscal year which ended October 31st, 1922, but we have ascertained that the total profit received by the Commission that year for power sold in these municipalities was $84,475.22, and the total profit in the same municipalities from March 1st, 1916, to October 31st, 1922, was $421,085.39. The figures showing the profits or losses in the respective municipalities from March 1st, 1916 up to October 31st, 1921, are as follows:

	Losses	Profits.
Belleville	-	$115,142.77
Bowmanville	$1,355.45	-
Brighton	-	2,808.47
Cobourg	-	47,109.93
Deseronto	738.90	-
Lindsay	-	32,406.83
Millbrook	320.24	-
Napanee	4,441.64	-
Newburg	3,388.13	-
Newcastle	-	1,057.07
Orono	-	1,093.83
Oshawa	-	79,274.52
Port Hope	-	12,149.15
Trenton	-	62,978.31
Tweed	6,992.25	-
Peterboro(which retails power itself, now on cost basis)	174.10	
	$17,410.71	$354,020.88
		17,410.71
Net profit on local electric systems to October 31st, 1921		$336,610.17
Net profit for year ended October 31st, 1922.		84,475.22
Total profit to October 31st, 1922		421,085.39

It will be noted that Oshawa made a profit for the Commission on the local distributing system to October 31st 1921, of $79,274.52. This was more than double the loss of the Commission during the same period of $35,212.29 on the Oshawa gas works referred to later. The profit on the local electric system in Cobourg for the period was $47,109.93 which went far toward equalling the deficit on the Cobourg gas works, $35,385.79, and on the Cobourg water works, $27,783.69, of which we later give particulars.

Number of Consumers in Certain Municipalities.

The following table shows the number of consumers in the municipalities where the Commission retails power itself during each year since the Government purchase:-

Municipality	Number of Consumers at end of Fiscal Year						
	1916	1917	1918	1919	1920	1921	1922
Belleville	1,790	1,996	2,140	2,342	2,666	2,378	3,040
Bowmanville	600	669	638	720	777	815	905
Brighton	362	383	358	377	404	419	423
Cobourg	631	717	784	855	973	1,075	1,154
Deseronto	210	179	186	210	259	300	326
Lindsay	1,297	1,462	1,552	1,640	1,748	1,860	1,963
Millbrook	165	164	163	168	172	177	183
Napanee	546	559	577	612	656	711	757
Newcastle	147	143	146	148	148	163	170
Newburg Line	90	90	95	105	105	105	109
Orono	131	137	133	140	149	153	163
Oshawa	1,419	1,529	1,635	1,900	2,525	2,819	3,213
Port Hope	890	868	892	976	1,004	1,094	1,167
Trenton	974	1,034	1,162	1,242	1,322	1,420	1,391
Tweed	250	274	295	310	332	333	351
TOTAL	9,582	10,164	10,754	11,743	13,241	14,320	15,315

This table shows that the number of consumers in the fifteen municipalities mentioned have grown more than 50 per cent. since the system was taken over in 1916. The growth of the load in the whole of the Central Ontario Section has also kept pace with the growth in the number of consumers. The power demand in a number of places is steadily increasing and at a faster rate than the growth of population. It is difficult to estimate whether the future growth will be at a similar rate to that which has taken place during the last seven or eight years. The indications, however, are that the demand will steadily increase as the years pass by.

NIPISSING SECTION

We have already described the property taken over by the Government in this Section and the extensions made. While this Section is included in the Central Ontario System, it is physically disconnected with the Trent Section. For this reason, while the total results of its operations are included in the general balance sheet, in detail its operations should be considered separately.

Capital assets at September 30th, 1922, were:

Tangibles	$596,485.30
Intangibles	107,855.70
Total	$704,341.00

The following statement shows profit and loss of the Section:

	Loss	Profit
1 year, 8 months ending Oct. 31, 1917	$1,929.36	-
Fiscal year ending October 31, 1918	15,648.65	-
Fiscal year ending October 31, 1919	1,089.53	-
Fiscal year ending October 31, 1920	10,179.71	-
Fiscal year ending October 31, 1921	6,805.90	-
Fiscal year ending October 31, 1922		$5,300.79
	$35,651.13	$5,300.79
	5,300.79	
Net loss to October 31, 1922	-$30,350.34	

The loss from the operation of this Section fluctuates to a considerable extent in the same ratio as the cost of operating the steam plant which is used as a stand-by. The cost of operating the steam plant for the years 1918 to 1921 was as follows:-

1918	-	$14,321.62
1919	-	8,785.07
1920	-	17,995.22
1921	-	11,423.03

There is a renewal account of nearly $100,000 which is included in the general renewal account of the System, but is applicable to the Nipissing Section.

GAS WORKS.

We have already referred to the gas plants bought by the Government. These were located at Cobourg, Napanee, Oshawa and Peterborough. The engineer in charge of them for the Commission states that when they were taken over they were in a most inefficient operating condition. The value of these works as shown on the books of the Commission at September 30th, 1922, was:

Tangibles	$632,724.19
Intangibles	75,599.33
	$708,323.52

The gas works have proved unprofitable. The losses from operation up to the year ended October 31st, 1922, amounted in all to $108,430.62, made up as follows:-

1 year, 8 months ending Oct. 31, 1917	$31,730.67
Fiscal year ending October 31, 1918	26,847.27
Fiscal year ending October 31, 1919	23,879.41
Fiscal year ending October 31, 1920	13,562.15
Fiscal year ending October 31, 1921	8,654.51
Fiscal year ending October 31, 1922	3,756.61
Total loss to October 31, 1922 . . .	$108,430.62

The encouraging feature of the foregoing statement is that the losses have decreased each year and it is not

unreasonable to assume that the gas works will soon be self-sustaining. The lowering of the deficit has been mainly due to increased rates and increased consumption. The price of gas to consumers has been increased by the Commission almost 100% since the purchase by the Government. The following statement shows the loss incurred in each municipality up to October 31st, 1921:

Cobourg	$35,385.79
Napanee	26,767.83
Oshawa	35,912.29
Peterborough	6,588.10
	$104,674.01

The gas plant in Napanee has been closed down for over a year. We are informed that this plant cannot be successfully operated without considerable expenditure for repairs and new equipment and this the Commission considers it inadvisable to make. The $42,753.00 paid for the plant, and the additions thereto will apparently have to be written off. If the operating results at Cobourg, Oshawa and Peterborough should continue to improve as they have in the past the accumulated deficits of these plants should in time disappear. There appears to be no restriction regarding the price that may be charged for gas in Cobourg. In Peterborough and Oshawa there are certain restrictions, notwithstanding which we are informed that the respective Councils of these municipalities have raised no objection to certain increases that have been made.

WATER WORKS

The two water works systems purchased by the Government and operated by the System were located one at Trenton and the other at Cobourg. The water works system at Trenton was sold to the town on January 1st, 1919, at a loss of $2,270.64. The capital cost to the Government of the Cobourg Water Works stood at September 30th, 1922, at $273,343.33. The operation of the Cobourg Water Works has resulted in a loss, which by years is as follows:-

	Loss	Profit
1year, 8 months ending Oct. 31, 1917	$ 7,704.09	
Fiscal year ending October 31st, 1918	8,543.01	
Fiscal year ending October 31st, 1919	8,429.94	
Fiscal year ending October 31st, 1920	1,153.49	
Fiscal year ending October 31st, 1921	1,973.16	
Fiscal year ending October 31st, 1922		$ 773.55
	$ 27,783.69	$ 773.55
	773.55	
Net loss to October 31, 1922 . . .	$ 27,010.14	

It will be noticed that the operation for the year ended October 31st last showed a profit of $773.55. The improved results of operation are largely due to the expiration on October 1st, 1919, of a franchise under which the rates chargeable were limited. Since this franchise expired the rates have been increased. No new agreement has been entered into and the Commission appears to be at liberty to fix rates at its pleasure.

PETERBOROUGH RADIAL RAILWAY

This railway is operated by the Commission under a franchise granted to a subsidiary of the Electric Power Company

The capital assets of this railway now stand on the books of the Commission at $334,476.57. The railway, except for the period from March 1st, 1916, to October 31st, 1917, has shown an increasing loss each year as will be seen by the following statement;-

	Loss	Profit
1 year 8 months ending Oct. 31, 1917		$ 1,848.84
Fiscal year ending October 31, 1918	$ 12,323.41	
Fiscal year ending October 31, 1919	26,062.86	
Fiscal year ending October 31, 1920	26,663.74	
Fiscal year ending October 31, 1921	53,031.15	
Fiscal year ending October 31, 1922	34,218.20	
	$ 132,299.36	$ 1,848.84
	1,848.84	
Net loss to October 31, 1922 . .	$ 130,450.52	

Up to October 31st, 1921, the revenue from the railway increased each year but the operating expenses increased at a relatively greater rate. For the year 1922 the revenue showed a decrease for the first time since the Commission took charge. The increases in revenue were due to advances in the rates of fare throughout the period and also for the years up to 1920 to increases in the number of passengers. In 1918 the fares were increased from a ticket fare of six tickets for twenty-five cents or a cash fare of five cents to a straight five-cent cash fare, and on December 1st, 1920, the municipal council of the City of Peterborough authorized a straight seven-cent cash fare which became effective as of that date. The monthly average number of passengers carried, which in 1920 was 157,000 fell in 1921, to 118,000. The principal increases in operating expenses are due to increases in wages and also

in 1921 to an increase in the cost of power.

We understand from the Commission that it is proposed to install about one dozen one-man cars and that it anticipates that lowered expenses will result therefrom. It is doubtful, however, if the railway will produce a revenue equal to the cost of operation unless there should be a large increase in the population of Peterborough. The accumulated deficit of this railway up to the present time is equal to one-third of the capital investment.

In Peterboro the electric distribution system was formerly owned by the Electric Power Company, but prior to the purchase of the assets of that company by the Government this plant had been expropriated by the City of Peterborough and the Commission receives no profit in Peterborough from electric distribution to set off in whole or part against the losses in respect of the railway.

CAMPBELLFORD PULP MILL

An interesting development purchased by the Government is Campbellford Pulp Mill, the cost of which, including a barking mill at Bancroft and the Bruton Township pulpwood areas purchased by the Government, to which reference is hereafter made, is shown on the book of the Commission as $506,182.96. The Operations of the Pulp Mill up to October 31st, 1922, have resulted in a net profit of $41,589.76, which by years is as follows:-

	Loss	Profit
1 year, 6 months ending Oct. 31, 1917		$ 32,753.62
Fiscal year ending October 31, 1918	$14,869.89	
Fiscal year ending October 31, 1919	77,080.85	
Fiscal year ending October 31, 1920		189,869.25
Fiscal year ending October 31, 1921	17,693.84	
Fiscal year ending October 31, 1922	71,568.53	
	$181,223.11	222,622.87
		181,233.11
Net profit to October 31, 1922		$ 41,389.76

It will be noted that during the years 1918 and 1919, when the price of pulp ranged from $30. to $40. per ton, substantial losses were sustained. In 1920 the price of pulp rose to $100 per ton and resulted in a profit for that year of $189,869.25. Unfortunately the losses have made serious inroads into the surplus until now the balance on the right side is comparatively small and unless there is a substantial improvement this year the surplus may be altogether wiped out. So unprofitable has the undertaking recently proved to be that the mill was closed in March, 1921, and operations were not renewed until last September, when the market improved.

When the Province purchased the pulp mill it had no limits from which to secure pulpwood. It later purchased limits in the Township of Bruton for which it paid $300,000, made up of $75,000 cash and $225,000 ten-year 5% bonds. The limit contains 40,000 acres of which 8,000 acres are waste and water lands. In 1920, when the mill was being operated at a large profit, certain offers for the mill and limits were made to the Commission, but no offer was accepted. One of the parties making an offer, or his agent, was paid $10,000.

by the Commission upon the cancellation of his option. This sum was charged in the costs of operation for the year, 1921.

It is undesirable that the Commission should carry on such business as operating a pulp mill, and in our opinion advantage should be taken of the first opportunity to dispose of the property at a fair and reasonable price. Question has been raised as to the quantity of pulpwood that there is upon the Bruton limits, the estimates made to us running from 80,000 to 210,000 cords. We recommend that the limits be thoroughly cruised and the quantity of pulpwood thereon ascertained.

The Kingston Contract

An agreement which has resulted in a considerable loss to the Province is that with the City of Kingston. This agreement was not in existence at the time of the purchase of the Central Ontario System but was entered into by the Commission with the City of Kingston, in September, 1916. It runs for twenty years. This contract has resulted in a consistent loss. The loss for the three years ending October 31st, 1921, is as follows:-

1919	$14,142.34
1920	12,754.10
1921	8,746.48
	$ 35,642.92

Options to Purchase

Certain municipalties have the right under agreements entered into between them and prior owners of the Central Ontario

plants to take over their local electric systems at their actual value. The "Actual Value" would not include the intangible value that has been charged against these properties by the Commission. Hence if the municipalities were to purchase, the Government would receive nothing for the intangibles which it bought. The amount of intangibles allotted to these local electric systems by the Commission as of March 1st, 1916, was $68,263.00 made up as follows:

Belleville	$25,830.00
Bowmanville	7,609.00
Deseronto	2,937.00
Lindsay	12,493.00
Millbrook	3,000.00
Newcastle	1,474.00
Orono	1,028.00
Port Hope	13,892.00
	68,263.00

There would, therefore, be a loss to this extent to the Government in the event of the sale of these properties, if the values of the properties when taken over should be the same as the values placed on them by the Commission when the systems were taken over in March, 1916. Since that time there has been a considerable increase in values and it may be that the increase in value might equal or more than equal the values placed on the intangibles at the time of the purchase.

In addition to the above municipalities there are certain municipalities that have the right to take over the electric systems within their respective limits at a valuation to be determined by arbitration in case the parties cannot agree as to price. In this latter class there is nothing in

the agreements to show whether or not intangibles should or should not be included in the price that may be paid.

Contracts for Power

A number of private companies purchase power directly from the Commission. One of the principal consumers is the Canada Cement Company which entered into a contract for power in 1910, with the then owners of the power development, for a period of 15 years with the right to renew for 15 years more, so that the company has the right to continue the contract until 1940. The price at which this power is delivered to the consumer is $17.76 per horsepower per annum subject to certain adjustments. This has proved a most unprofitable contract. The loss on it for the three years that ended October 31st, 1921, was $73,391.17, of which $51,960.57 was for the year that ended October 31st, 1921. The revenue received by the Commission from the company for that year was $68,000.00 so that the loss on the contract was over 43%. If the operations of the company increase it would seem probable that the deficit will continue to grow in size. The Company has not only the right under the contract to take power for itself but has the right to resell the power which it purchases to contractors or others doing work for it. It is not surprising that our consulting engineer describes this contract as "a heavy burden on the enterprise."

Losses.

It will be readily seen from the foregoing statements there are some very serious losses. The losses from the Campbellford Pulp Mill and the Peterborough Street Railway in 1922 and on the Canada Cement Company contract in 1921, alone amounted to $187,767.50. The Commission is fortunate in securing profits elsewhere from retail sale of power, made under contracts taken over from the Electric Power Company. If the municipalities whose local distributing systems are operated by the Commission should take over these systems from the Government, the loss of revenue resulting would be serious. Mr. Chenney, the auditor of the Commission suggests that if these local systems were taken over by the municipalities the only way for the Commission to make up the losses would be to increase the charge for power supplied to them.

Sinking Funds.

Under the Power Commission Act provision is made for sinking funds to meet the cost of construction of the various undertakings. In the Act respecting the Central Ontario development there is no corresponding provision. Sinking funds have been provided only in respect of the Oshawa Rural Line, the Bruton Township Pulpwood areas and the barking mill at Bancroft. We have already shown that the total amount of sinking funds accumulated up to October 31st, 1921, amounted,

with interest thereon to only $28,665.54. There are certain municipalities in the Central Ontario System with which the Commission has made contracts on the usual Hydro form to supply power at cost and there is a provision in these contracts for the establishment of sinking funds. These municipalities include the City of Peterborough, which entered into a contract with the Commission on March 1st 1913. the town of Picton and the villages of Bloomfield, Lakefield, Marmora, Wellington, Havelock and Norwood. Yet in the case of none of these municipalities has any action been taken by the Commission to establish a sinking fund.

It is not surprising that the Commission has not attempted to establish sinking funds in these cases. There are great practical difficulties in the way. If the sinking funds were established and the municipalities acquired an interest in the generating stations, transmission lines, etc., the Commission, while trustee for them would be using the same plants to supply power to municipalities and private customers who have contracts for power at flat rates. It would also have to continue to operate the Peterborough Street Railway and the Campbellford Pulp Mill which take power from the Commission and pay cost for such power exclusive of sinking funds. Mr. Clarkson says, in reporting upon this subject to the Government;

> " If the System be operated on such a basis it is not impossible or improbable that some confusion may ultimately ensue as to the exact rights of the Province and the municipalities under contract if sinking funds be collected from the latter; and it is not clear as to how far the provisions of the Power Commission Act will or will not apply to the operation of the System."

It is clearly in the interests of the Province that a sinking fund be established, for a sinking fund would be in effect a payment on account of the cost of the property to the Government, and the greater the payments the greater security the Government would have. But owing to the variety of contracts under which power is supplied by the Commission there are, as Mr. Clarkson points out, great practical difficulties in the way. In our opinion it would be better to let the matter rest until a comprehensive plan for a general sinking fund can be carefully worked out. We agree with Mr. Clarkson that if one were established under existing conditions confusion might result.

Reserve for Contingencies

The Reserve for Contingencies for the System amounted as of October 31st, 1921, to $7,952.61. The Commission appears to have set aside for this fund a reserve on the basis of twenty-five cents per horsepower installed. The charges against the contingency reserve

for the year 1921 amounted to $30,764.49. If the amount expended for 1922 had equalled this there would have been a deficiency of about $14,000.00 Our consulting engineer referring to the Contingency Reserve says:

> " Having in mind the heavy losses which might be occasioned through catastrophe, it is felt that the total amount at the credit of this account should be augmented by i - creased annual allowances for contingencies, and when a reserve of say $50,000 or $75,000 will have been built up the rates can be readjusted to suit the conditions found after several further years of experience."

We fully agree with this statement and recommend that the course proposed be followed.

The contingency reserve in the Nipissing Section which now amounts to $1,5[illegible].00 might well be built up to say $20,000.00.

Reserve Funds

The Commission has set aside a Renewal Reserve, which with the amount also set aside for Sinking Fund and Contingencies (hereinbefore mentioned) amounted as at October 31st, 1921 to $1,081,044.67, made up as follows:-

For Renewals	$1,044,426.52
For Sinking Fund	28,665.54
For Contingencies	7,952.61
	$1,081,044.67

This sum has been applied as follows:

Used to increase working capital (in addition to working capital advanced by the Government). .	$144,674.83
Lost through operation to October 31st, 1921	168,930.15
Invested in capital assets . . .	767,439.69
	$1,081,044.67

It has been suggested that the renewal fund is larger than is necessary and might well be reduced. In the matter of a renewal fund it is always well to be on the safe side. It would in our opinion, be unwise to reduce the renewal fund until a revaluation of the property has been made and the question as to whether or not the renewal fund is too large or too small has been placed beyond a reasonable doubt. As it is, the size of the renewal fund is one of the most favorable conditions in connection with the Central Ontario development. To its extent it affords substantial security to the Government for its investment. If it were reduced the security of the Government would be reduced to the same degree. Under the conditions in which it is placed the Government should get all the security that it reasonably can and hold all the security that it gets.

The use of the renewal fund as capital seems to us to have been right and proper. If it had not been used as capital the amount that the Government would have had to furnish would have been increased by just that amount.

Funds Wrongly Diverted

The amount appropriated by the Province of Ontario for the Central Ontario System between the date of the purchase

and October 31st, 1920, was $3,823,185.00 made up as follows;

Year Ending Oct. 31st	Amounts Appropriated by the Province	Advances by Province including bonds issued in connection with the purchase of Bruton Township Pulpwood areas.		
		Under Appropriation	Under Special Warrants	Total
Mar.1st 1916 to Oct. 31st. 1917	$1,845,000	$1,300,000	$ 250,000	$1,550,000
1918	648,185	448,185	120,000	568,185
1919	1,175,000	895,000	280,000	1,175,000
1920	925,000	230,000	300,000	530,000
	$4,593,185	$2,873,185	$ 950,000	$3,823,185

Before these sums were voted by the Legislature the Commission made application for them setting forth in detail the purposes for which they were to be used. Some of the amounts asked for were to be used, so it was stated in the application, for new or extended power development, some for transmission lines, some for transformer stations, others for gas and water works or other purposes.

The amounts voted by the Legislature were paid over to the Commission but only a part was used for the purposes mentioned in the requisitions. In all $1,719,472.22 voted by the Legislature for use on the property of the Province in Central Ontario during the years 1916 to 1920 was diverted by the Commission and expended, not on the property of the Province, but on plants throughout Ontario that the Province did not own but that were being operated by the Commission under the provisions of the Power Commission Act. A large portion of

this money was used for building a third pipe line for the Ontario Power Company at Niagara. The purposes for which the appropriations were used cannot have been in the minds of the Legislators when the appropriations were made by them.

When out of the amount voted by the Legislature to be applied for specific purposes on the property of the Province in Central Ontario $1,719,000. is used, not for these purposes, nor on this property, but elsewhere, it is difficult to avoid the conclusion that the Commission never intended to use these moneys for the purposes for which they were asked but applied for them in order to have money to use in other places and for other purposes altogether. The Commission in diverting them was guilty of a breach of faith and showed a flagrant disregard for the law.

We find no record in the minutes of the Commission authorizing the diversion of these funds. Sir Adam Beck tells us that he does not know whether or not the Commission did authorize the diversion and it is probable that no member of the Commission other than himself knew about it. The following extract from the evidence of Sir Adam Beck in our opinion fairly summarizes his attitude on the subject:-

> "Q. " ... according to your books, Sir Adam, there were appropriations made by the Ontario Legislature for the Central Ontario System and they appear to have been diverted from that System to the systems of the Hydro elsewhere?
> A. Yes, I think that was done various times. I think there we had moneys available, and so on, during the war, methods of financing were used that were not altogether in accordance with the strict letter of the law . . . . "

Or in other words, if the Government did not give the Commission what it wanted when it wanted it, the Commission was justified in using any money which it had on hand, for any purpose. This was not corruption but it was an absolute disregard for the authority of Parliament. That Canada was at war, in no way justified the practices referred to. In fact the diversions were made to a greater extent after the war than during its progress. In the last year of the War they amounted to $130,048.79, while in 1919 they reach $701,610.20, which was 59 per cent, of the appropriations for that year.

Mr. C. F. Clarkson the Auditor, in his report year after year to the Government of the day made reference to these diversions and informs us that he also took the matter up both with the Government and the Commission and pointed out the illegality of the course that had been taken. Finally in 1921, the Commission paid back to the Government the $1,719,472.22 which it had taken, and interest thereon. It seems unbelievable that any Commission could wrongfully divert over $1,700,000 voted by the Legislature for specific purposes without being sharply called to account.

Power Shortage

During the late summer and early fall of 1921 and 1922 there was a serious shortage of power in the Trent district. As a result many manufacturing plants had to be closed down for some days and much inconvenience and loss resulted. The representatives of the Commission claimed that the Dominion Government had unreasonably withheld water and

that to the action of the Dominion Government in this regard the shortage of power was directly attributable. We heard Major Graham Bell, Deputy Minister of Railways and Canals, on this question. Major Bell strongly denied the statement that the Dominion Government was to blame and produced much evidence tending to show that responsibility for the shortage did not rest upon it. To pass upon the dispute between the Dominion and the Commission in regard to the shortage would require a fuller investigation than we have had opportunity of making. We believe, however, that the exchange of opinions made before us by Major Bell and his engineers and the engineers and other representatives of the Commission will be productive of good. There are the strongest of reasons for the hearty and sympathetic co-operation of the officials of the Dominion Government and those of the Commission. If there should be such co-operation in the future the danger of power shortage would be greatly reduced.

Further Sources of Power

Our consulting engineer points out in his report to us that the possibility of further development of power in the Trent Section is limited. There appears to be no doubt that before many years pass by it will be necessary to bring power into the Section from other sources. It may be found desirable to carry Niagara power into a number of places in the westerly portion of the Section, for example, Oshawa, Whitby and Bowmanville.

During the course of our inquiry the Mayor and other citizens of North Bay appeared before us and urged the

advisability of constructing a development plant on the French River. At Chaudiere on this river there is at present a dam which has been erected by the Dominion Government. Mr. T.H.Hogg, an hydraulic engineer on the staff of the Commission, stated that the estimated cost of a development at this point of from 10,000 to 12,000 h.p. would be approximately $1,800,000. If a development were made there the power would be available for North Bay at such time as the increased power to be derived from the proposed development on the South River, already mentioned, would be exhausted. It might be found feasible to generate power on the French River at Chaudiere and carry it into the northern part of the Trent Section. If this plan were found practicable the bringing in of power from Niagara might be found unnecessary. We recommend that a report be obtained on possible development on the French River and the feasibility of carrying power from there for use in the Trent Section. If power should be developed on the St. Lawrence it would, of course, provide a supply of power for Central Ontario that would make supply from any other sources unnecessary.

Future Policy

That course should the Government take in respect of the Central Ontario System? We are strongly of opinion that its settled policy should be to dispose of it as soon as icable. In any event it should dispose of it prior

to the maturity of the bonds in 1926. The first step should be to have a comprehensive inventory and valuation made. When the valuation is made a conference of the Government, the Commission and the municipalities should be held and an understanding arrived at as to what properties the municipalities will take over. The properties that the municipalities do not desire to take over should be disposed of and the municipalities should take the others at prices equal to the balance due the Government in respect of its investment. In dealing with the matter the Government should find the report of Mr. Walter J. Francis, our Consulting Engineer, and the report of Messrs. Price, Waterhouse & Co., our Accountants, of great value.

Since the property was purchased in 1916 many changes have taken place. Some of the property has been sold, some has been scrapped, some has doubtless depreciated in value. On the other hand there have been extensive improvements and additions. The general increase in values which has taken place since 1916 must have increased the selling value of many, if not most, of the plants, notwithstanding obsolescence. The tables that we have given show the large and increasing demand for power throughout the System.

In the final settlement some of the properties, such for instance, as local distributing plants would doubtless

be made over to the respective municipalities within which these plants are located. Others, such as generating plants and transmission lines, would be acquired by the municipalities collectively. It appears to us that the proper course to take in respect of these properties of the System which the municipalities take collectively would be to arrange for the operation of them by the Commission under the provisions of the Power Commission Act. The most difficult part of the settlement will probably be the adjustment between the municipalities themselves, but while this may prove difficult it should be by no means impossible to arrive at an agreement which will be fair and equitable to all. It may be necessary to call in an arbitrator to adjust these matters, if any, upon which the municipalities themselves fail to agree. When an agreement is arrived at a special Act of the Legislature might well be passed confirming it. In a settlement the municipalities will, of course, receive the benefit of the renewal and sinking funds now on hand. If a sale to the municipalities should not be made and the property continue in the hands of the Government, sound policy will demand that the Government build up a sinking fund for the whole System out of the receipts.

We have given full consideration to the representations made to us by gentlemen representing Central Ontario municipalities that the municipalities should not be required or expected to take over the properties at the cost of these properties to the

Provincial Government. It is premature to discuss price before a valuation of the properties has been made, but we are of opinion that whatever the valuation may be it would not be fair or just to require the people of Ontario to pay any part of the outlay which the Government made for the municipalities of Central Ontario. At the time of the purchase the municipalities were represented and their representative assented to the terms finally agreed upon. In complying with the request of the municipalities and lending the credit of the Province to purchase, maintain and extend the System, the Government rendered valuable service and should not suffer loss because it did so.

FINDINGS AND RECOMMENDATIONS

Our principal findings and recommendations may be summarized as follows:-

1. The Commission found its path eastward obstructed by the private interests operating the Trent Section. It was called in by the municipalities which desired it to extend its operations to that district. It negotiated for the purchase from the private interests of their developments and finally the Provincial Government, acting for the Commission, purchased the property with the understanding on the part of all parties that it would finally turn it over to the Commission to be operated under the Power Commission Act.

2. The price paid for the property was not fixed by arbitration nor was it based upon physical or earning values but was the result of negotiations and barter.

3. Unfortunately, although the Government purchased the property on the understanding on the part of the Government, the Commission and the municipalities that it would be turned over to be operated under the Power Commission Act, no agreement was arrived at between the municipalities themselves or between the municipalities and the Government as to the terms upon which the property should be turned over. Before the Government made the purchase there should have been a clear and definite agreement between it and the municipalities setting forth the terms and conditions on which the Government would turn over the property and protecting the Government from any danger of loss. Such an agreement would have left no room for misunderstanding. Difficulties in the way of such an agreement as now exist did not exist then.

4. The agreement was hurriedly made and the measure validating the agreement was brought before the Legislature and passed through in a single day. It was impossible in the short time available for discussion to consider the agreement as refully or properly provide for the protection of the interests of the Province.

5. Although it was understood that the properties should be made over for operation under the Power Commission Act, no progress in this direction has been made. We recommend the unscrambling of the System and the sale and making over of the properties in the manner already set forth.

6. A valuation of all the utilities must be made before the unscrambling. Such valuation should be made at an early date.

7. Sinking funds should be provided, whether the property is owned by the Government or by the municipalities, through the Commission. When the present bonds fall due in 1926 new bonds will have to be issued and the sinking fund should be fixed on a basis of providing for the payment of the new bonds at maturity.

8. The rates fixed for renewals should not be lowered, if at all, until after a valuation has been made and careful consideration given to adequate provision for obsolescence, antiquation and other causes of depreciation.

9. Contingent funds should be increased and should be levied on a logical basis. At present they are far too small to cover the hazard adequately.

10. Such steps should be taken as would render impossible further diversions of funds such as we have described.

11. A study should be made as to whether it is practicable to develop power on the French River to supplement the present power available for the Central Ontario System.

A study should also be made as to the cost and desirability of carrying Niagara power into the Central Ontario System.

12. The Government is liable for an outlay of more than $12,000,000 in the Central Ontario System. The reports that have been made to it by the Commission from time to time, although containing much information, fall far short of giving a clear and comprehensive view of conditions as they now exist. A much fuller account of the conditions and of operations should be given annually by the Commission to the Government and should be made available for the municipalities interested.

DATED MARCH 2nd, 1923. (Signed) W. D. GREGORY
Chairman

M. J. HANEY

LLOYD HARRIS

J. ALLAN ROSS

R. A. ROSS